

# Work Order ID 104597

**\*104597\***

Page 1

July-12-13 10:30:24 AM

Item ID: D2435

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Bearpaw

Start Date: 7/12/13

Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 7/12/13

Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 13-07-15

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

**\*NR1\***

Stop

**\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D2435

Rev E1

120

FLOW WATER JET

0.00

**\*120\***

Waterjet

Memo

0.00

FLOW CNC Waterjet

CUT BLANK AS PER FILE D2435

GHMW 1" BLK.

4 0 JmB-0819

130

HAAS CNC VERTICAL MACHINING #1

0.00

**\*130\***

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Inspect material for defects or damage prior to machining  
2-Machine as per Folio FA789 and Dwg D2435 Identify as D2435  
3-Deburr

DR/DA  
13/09/03

4 0

140

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*140\***

QC

Memo

0.00

Quality Control

DR/DA  
13/09/03

4 0

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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## Work Order ID 104597

\*104597\*

Page 2

July-12-13 10:30:24 AM

Item ID: D2435

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Bearpaw

Start Date: 7/12/13 Start Qty: 4.00

\*4\*

Cust Item ID:

Required Date: 7/12/13 Req'd Qty: 4.00

\*4\*

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start \*NR1\*

QC: Date: SPC (Y/N): Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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150

QC8- Inspect parts - second check

0.00

\*150\*

13-09-08

4

0

QC

Memo

0.00

Quality Control

151

Identify as per dwg &amp; Stock Location:

0.00

\*151\*

Packaging

Memo

0.00

Packaging

44 32

190

QC21- Final Inspection - Work Order Release

0.00

\*190\*

QC

Memo

0.00

Quality Control

13/9/11

13-09-9

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
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Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

**FAULT CATEGORY**

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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# Picklist Print

July-12-13 10:30:24 AM

Page 1

Work Order ID: 104597  
Parent Item: D2435  
Parent Item Name: Bearpaw

Start Date: 7/12/13  
Start Qty: 4.00

Required Date: 7/12/13  
Required Qty: 4.00

## Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB10 UHMW 1" Black		Purchased	No			120	sf	780.0003	3.2	<del>128</del> 15		7/13/08-19	

Location	Loc Qty	Loc Code
MAT019	780.0002895	
121278	11.0002895	
122575	47.6	
123229	53	
123704	63.8	
123949	6.96	
124382	197.12	
124758	17.52	
125137	383	

125137

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
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**FAULT CATEGORY**

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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DART AEROSPACE LTD		Work Order:	104597
Description: Bearpaw		Part Number:	D2435
Inspection Dwg: D2435	Rev: E1	Page 1 of 1	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
A	0.063 x 45°	+0.030/-0.010	.063 x 45°			DR 05	6" VERN.
B	5.500	+/-0.030	5.501			DR 08	12" VERN.
C	0.200	+/-0.030	.200			DR 05	6" VERN.
D	R0.250	+/-0.030	R.250			RADIUS	GAUGE.
E	0.250	+/-0.010	.248			DR 05	6" VERN.
F	0.625	+/-0.030	.625			DR 05	6" VERN.
G	0.25 x 45°	+/-0.030	.30 x 45°			DR 05	6" VERN.
H	0.375	+/-0.010	.370			DR 05	6" VERN.
I	19.000	+/-0.030	19.00			DR 15	TAP WRENCH.
J	0.950	+0.030/-0.010	.952			DR 05	6" VERN.
K	Ø0.260	+0.005/-0.000	Ø.260			Pin Gauge.	
L	Ø0.930	+/-0.030	Ø.928			DR 05	6" VERN.
M	0.30	+0.030/-0.000	.303			DR 05	6" VERN.
N	0.375	+/-0.030	.377			DR 05	6" VERN.
O	7.375	+/-0.030	7.375			DR 08	12" VERN.
P	4.250	+/-0.010	4.25			DR 05	6" VERN.
Q	2.000	+/-0.030	2.010			DR 05	6" VERN.
R	9.000	+/-0.010	9.000			DR 08	12" VERN.
S	15.750	+/-0.030	15.80			DR 15	TAP WRENCH.

Measured by: <u>13/09/03</u>	Audited by: <u>SS</u>	Prototype Approval:	N/A
Date: <u>13/09/03</u>	Date: <u>13-09-08</u>	Date:	

Rev	Date	Change	Revised by	Approved
A	03.09.22	New Issue P/O K10007	KJ/RF	#







DESIGN KE	DRAWN BY KE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D2435	REV. E SHEET 1 OF 2
DATE 98.05.19	TITLE BEARPAW	SCALE 1:5	
A	96.01.24	NEW ISSUE	
B	96.03.26	CHANGE BORE AND C'BORE DEPTH	
C	97.05.07	CHANNEL & C'BORE DEPTH CHANGED	
D	97.10.17	R1.5 BORE WAS R2.637 (TSR A469)	
E	98.05.19	CHANGE C'BORE, R1.58 WAS R1.50	

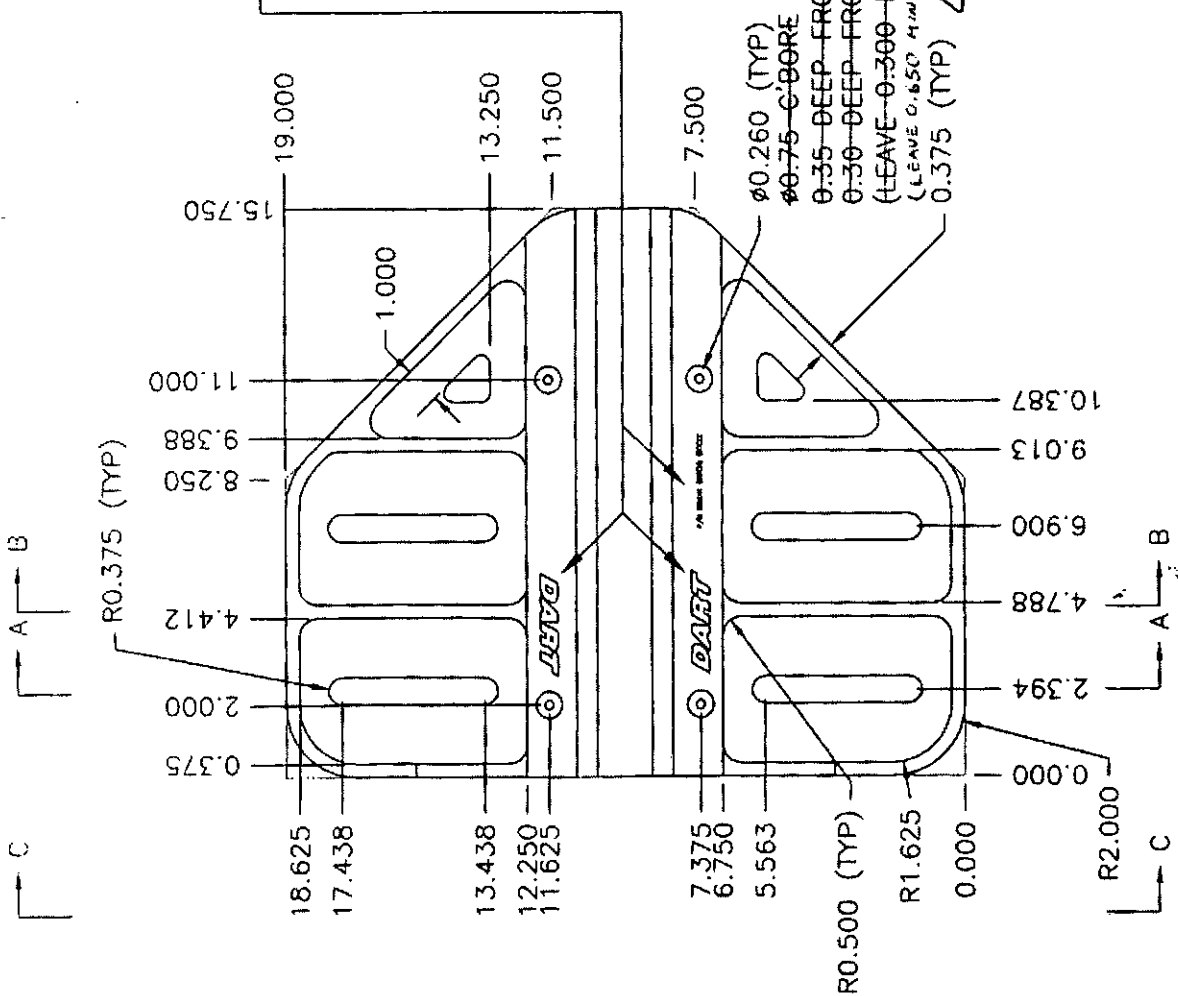
RELEASED  
19 JUL 17 KE

ENGRAVE LOGO TO MAX  
DEPTH OF 0.012. ENGRAVE  
PART AND BATCH NUMBERS  
TO MAX DEPTH OF 0.010.  
(TYPICAL LOCATION AS  
ILLUSTRATED)

104597 M25  
13-07-15

EFFECTIVE DEOs

9143	



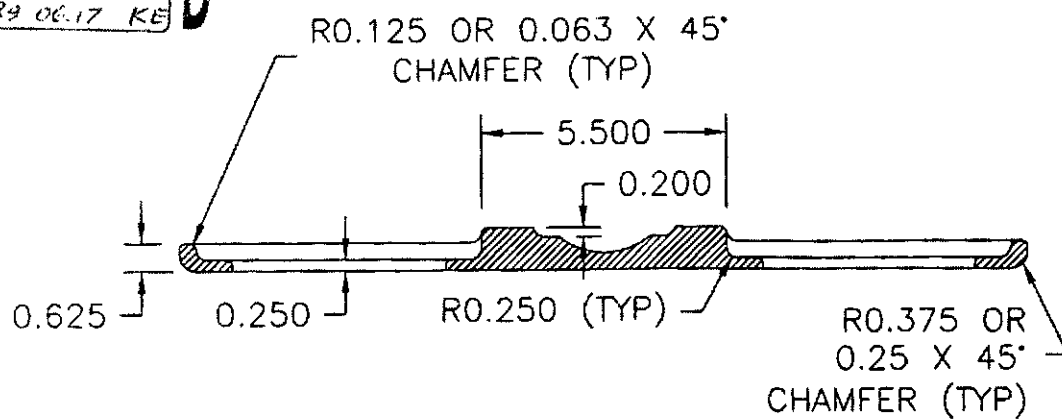
MATERIAL: UHMW BLACK PER SPEC CONTROL DRAWING D2689  
1.00 THICK (MACHINE TO 0.950)



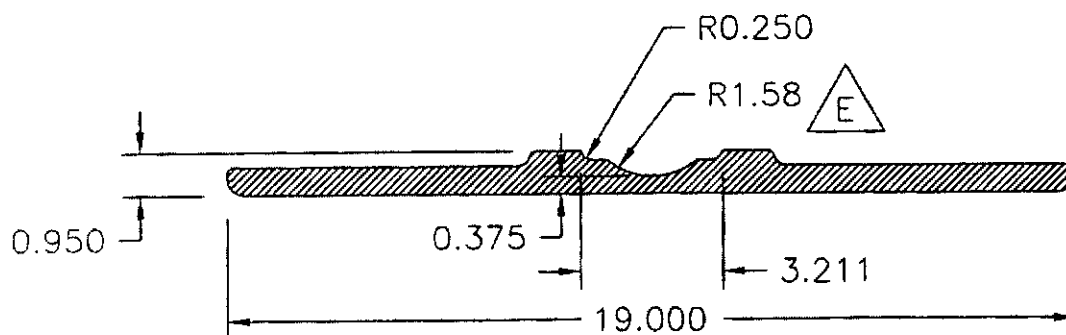


DESIGN <i>KE</i>	DRAWN BY <i>KE</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>MB</i>	APPROVED <i>KE</i>	DRAWING NO. D2435	REV. E SHEET 2 OF 2
DATE 98.05.19		TITLE BEARPAW	SCALE 1:4

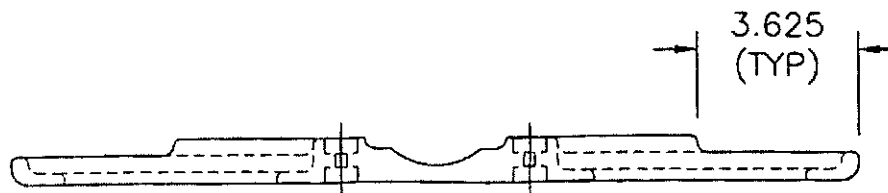
RELEASED  
94 06.17 KE



SECTION A-A



SECTION B-B



SECTION C-C

104597

